

**ABSTRACT OF THE DISCLOSURE**

**VIBRATION CANCELLATION IN A DISK DRIVE BY USING AN  
ACCELERATION SENSOR AND ADAPTIVELY ADJUSTING ITS GAIN TO  
MINIMIZE EXTERNAL ACCELERATION EFFECTS**

Disclosed is a disk drive using an accelerometer to sense linear vibration and cancel its effects with an adaptive algorithm during track following. The accelerometer is oriented to detect acceleration associated with torque that tends to cause the actuator to move off-track notwithstanding the efforts of the servo control system. The accelerometer's filtered output is used to modify the control effort. The disk drive uses the position error signal to adaptively filter the accelerometer's output in an effort to mathematically converge on a set of optimal filter coefficients and thereby reduce the effect of vibration that may otherwise impose a torque on the actuator .